CHEMICALS, THE ENVIRONMENT, AND YOU		
Georgia Science Performance Standards – Grades 6, 7, 8		
Lesson	**Standard**	**Description**
2, 3, 4	**S6CS1.a** **S7CS1.a** **S8CS1.a**	Understand the importance of—and keep—honest, clear, and accurate records in science.
1, 2, 3, 6	**S6CS1.b** **S7CS1.b** **S8CS1.b**	Understand that hypotheses are valuable if they lead to fruitful investigations, even if the hypotheses turn out not to be completely accurate descriptions.
2, 3	**S6CS2.a** **S7CS2.a** **S8CS2.a**	Follow correct procedures for use of scientific apparatus.
1, 2, 3	**S6CS2.b** **S7CS2.b** **S8CS2.b**	Demonstrate appropriate techniques in all laboratory situations.
2, 3	**S6CS2.c** **S7CS2.c** **S8CS2.c**	Follow correct protocol for identifying and reporting safety problems and violations.
2, 3, 4	**S6CS3.a** **S7CS3.a** **S8CS3.a**	Analyze scientific data by using, interpreting, and comparing numbers in several equivalent forms, such as integers, decimals (6), fractions, and percents (7 & 8).
2, 4	**S6CS3.b**	Use metric input units (such as seconds, meters, or grams per milliliter) of scientific calculations to determine the proper unit for expressing the answer.
2, 4	**S7CS3.c** **S8CS3.c**	Apply the metric system to a scientific investigation that includes metric to metric conversion. (i.e. centimeters to meters)
2, 3, 4	**S6CS3.c** **S7CS3.f** **S8CS3.e**	Address the relationship between accuracy and precision and the importance of each.

All lessons	**S6CS3.d** **S7CS3.d**	Draw conclusions based on analyzed data.
2, 3	**S6CS4.a** **S7CS4.a** **S8CS4.a**	Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files.
2, 3, 4	**S6CS4.b**	Estimate the effect of making a change in one part of a system on the system as a whole.
2	**S6CS4.c**	Read analog and digital meters on instruments used to make direct measurements of length, volume, weight, elapsed time, rates, and temperature, and choose appropriate units for reporting various quantities.
2, 3, 4	**S6CS5.b**	Identify several different models (such as physical replicas, pictures, and analogies) that could be used to represent the same thing, and evaluate their usefulness, taking into account such things as the model's purpose and complexity.
2, 3, 4	**S7CS5.b** **S8CS5.b**	Understand that different models (such as physical replicas, pictures, and analogies) can be used to represent the same thing.
2, 3, 4	**S6CS6.a** **S7CS6.a** **S8CS6.a**	Write clear, step-by-step instructions for conducting scientific investigations, operating a piece of equipment, or following a procedure.
2, 4, 6	**S6CS6.b**	Understand and describe how writing for scientific purposes is different than writing for literary purposes.
2, 3, 4	**S7CS6.b** **S8CS6.b**	Write for scientific purposes incorporating data from circle, bar and line graphs, two-way data tables, diagrams, and symbols.
2, 3, 4	**S6CS6.c** **S7CS6.c** **S8CS6.c**	Organize scientific information using appropriate tables, charts, and graphs, and identify relationships they reveal.
All lessons	**S6CS7.b** **S7CS7.d** **S8CS7.d**	Recognize that there may be more than one way to interpret a given set of findings.
2, 3, 4	**S7CS7.c** **S8CS7.c**	Question the value of arguments based on small samples of data, biased samples, or samples for which there was no control.
2, 3, 4	**S6CS8.a** **S7CS8.a** **S8CS8.a**	When similar investigations give different results, the scientific challenge is to judge whether the differences are trivial or significant, which often requires further study. Even with similar results, scientists may wait until an investigation has been repeated many times before accepting the results as

		meaningful.
2, 4, 5, 6	**S6CS8.c** **S7CS8.c** **S8CS8.c**	As prevailing theories are challenged by new information, scientific knowledge may change and grow.
All lessons	**S6CS9.a** **S7CS9.a** **S8CS9.a**	Scientific investigations are conducted for different reasons. They usually involve collecting evidence, reasoning, devising hypotheses, and formulating explanations. (6) Investigations are conducted for different reasons, which include exploring new phenomena, confirming previous results, testing how well a theory predicts, and comparing competing theories (7) and formulating explanations to make sense of collected evidence (8).
2, 5, 6	**S6CS9.b** **S7CS9.b** **S8CS9.b**	Scientists often collaborate to design research. To prevent bias, scientists conduct independent studies of the same questions. (6) Scientific investigations usually involve collecting evidence, reasoning, devising hypotheses, and formulating explanations to make sense of collected evidence. (7 & 8)
2, 3, 4	**S6CS9.c** **S7CS9.e** **S8CS9.e**	Accurate record keeping, data sharing, and replication of results are essential for maintaining an investigator's credibility with other scientists and society.
2, 3, 4	**S7CS9.c** **S8CS9.c**	Scientific experiments investigate the effect of one variable on another. All other variables are kept constant.
2, 3, 4	**S6CS9.d** **S7CS9.f** **S8CS0.f**	Scientists use technology and mathematics to enhance the process of scientific inquiry.
2, 4	**S6CS9.e** **S7CS9.g** **S8CS9.g**	The ethics of science require that special care must be taken and used for human subjects and animals in scientific research. Scientists must adhere to the appropriate rules and guidelines when conducting research.
2	**S7L2.a**	Explain that cells take in nutrients in order to grow and divide and to make needed materials.
2	**S7L2.c**	Explain that cells are organized into tissues, tissues into organs, organs into systems, and systems into organisms.
2	**S7L2.d**	Explain that tissues, organs, and organ systems serve the needs cells have for oxygen, food, and waste removal.
All lessons	**S7L4.c**	Recognize that changes in environmental conditions can affect the survival of both individuals and entire species.

1	**S8P1.b**	Describe the difference between pure substances (elements and compounds) and mixtures.
1	**S8P1.f**	Recognize that there are more than 100 elements and some have similar properties as shown on the Periodic Table of Elements
Georgia Mathematics Performance Standards – Grades 6, 7, 8		
Lesson	**Standard**	**Description**
2, 4	**M6N1.f**	Use fractions, decimals, and percents interchangeable.
2, 4	**M6N1.g**	Solve problems involving fractions, decimals, and percents.
2, 4	**M6M1**	Convert from one unit to another within one system of measurement (customary or metric) by using proportional relationships.
2	**M6M2.b**	Select and use units of appropriate size and type to measure length, perimeter, area, and volume.
4	**M6A1**	Understand the concept of ratio and use it to represent quantitative relationships.
4	**M6A3**	Evaluate algebraic expressions, including those with exponents, and solve simple one-step equations using each of the four basic operations.
2, 3, 4, 6	**M6D1.a**	Formulate questions that can be answered by data.
3, 4	**M6D1.b**	Using data, construct frequency distributions, frequency tables, and graphs.
3, 4	**M6D1.c** **M6D1.f**	Choose appropriate graphs to be consistent with the nature of the data (categorical or numerical). Graphs should include pictographs, histograms, bar graphs, line graphs, circle graphs, line plots (6), box-and-whisker plots and scatterplots. (7)
2, 3, 4	**M6D1.d**	Use tables and graphs to examine variation that occurs within a group and variation that occurs between groups.
2, 3, 4, 6	**M6D1.e**	Relate the data analysis to the context of the questions posed.
2, 3, 4	**M6P1.b** **M7P1.b** **M8P1.b**	Solve problems that arise in mathematics and in other contexts.
2, 3, 4	**M6P1.c** **M7P1.c** **M8P1.c**	Apply and adapt a variety of appropriate strategies to solve problems.

2, 3, 4	**M6P4.c M7P4.c M8P4.c**	Recognize and apply mathematics in contexts outside of mathematics.
2, 3, 4	**M6P5.b M7P5.b M8P5.b**	Select, apply, and translate among mathematical representations to solve problems.
2, 3, 4	**M6P5.c M7P5.c M8P5.c**	Use representations to model and interpret physical, social, and mathematical phenomena.
2, 3, 4	**M7N1.d**	Solve problems using rational numbers.
2, 3, 4	**M7A3.b**	Represent, describe, and analyze relations from tables, graphs, and formulas.
2, 3, 4	**M7A3.c**	Describe how change in one variable affects the other variable.
2, 3, 4	**M7D1.a**	Formulate questions and collect data from a census of at least 30 objects and from samples of varying sizes.
2, 3, 4	**M7D1.g**	Analyze and draw conclusions about data, including describing the relationship between two variables.
4	**M8A1.c**	Solve algebraic equations in one variable, including equations involving absolute values.
Georgia English Language Arts Performance Standards – Grades 6, 7, 8		
Lesson	**Standard**	**Description**
1, 4, 5, 6	**ELA6R1.d**	Identifies and analyzes main ideas, supporting ideas, and supporting details.
2, 3, 4	**ELA6R1.e**	Follows multi-step instructions to complete or create a simple product.
All lessons	**ELA6R2 ELA7R2 ELA8R2**	Understands and acquires new vocabulary and uses it in reading and writing (6 & 7) / uses it correctly in reading and writing (8).
1, 2, 4, 5, 6	**ELA6RC1 ELA7RC1 ELA8RC1**	Reads both informational and fictional texts in a variety of genres and modes of discourse, including technical texts related to various subject areas.

All lessons	**ELA6RC2** **ELA7RC2** **ELA8RC2**	Participates in discussions related to curricular learning in all subject areas.
All lessons	**ELA6RC3.a** **ELA7RC3.a** **ELA8RC3.a**	Demonstrates an understanding of contextual vocabulary in various subjects.
All lessons	**ELA6RC3.b** **ELA7RC3.b** **ELA8RC3.b**	Used content vocabulary in writing and speaking.
All lessons	**ELA6RC3.c** **ELA7RC3.c** **ELA8RC3.c**	Explores understanding of new words found in subject area texts.
1, 2, 4, 5, 6	**ELA6RC4.a** **ELA7RC4.a** **ELA8RC4.a**	Explores life experiences related to subject area content.
2, 4, 5, 6	**ELA6W1.b** **ELA7W1.b** **ELA8W1.b**	Writes texts of a length appropriate to address the topic or tell a story.
2, 4, 5, 6	**ELA6W2.a** **ELA7W2.a** **ELA8W2.a**	Produces technical writing that creates or follows an organizing structure appropriate to purpose, audience, and context.
All lessons	**ELA6LSV1.a** **ELA7LSV1.a** **ELA8LSV1.a**	Initiates new topics in addition to responding to adult-initiated topics.
All lessons	**ELA6LSV1.b** **ELA7LSV1.b** **ELA8LSV1.b**	Asks relevant questions.
All lessons	**ELA6LSV1.c** **ELA7LSV1.c** **ELA8LSV1.c**	Responds to questions with appropriate information.

All lessons	**ELA6LSV1.f** **ELA7LSV1.f** **ELA8LSV1.f**	Actively solicits another person's comments or opinions.
All lessons	**ELA6LSV1.g** **ELA7LSV1.g** **ELA8LSV1.g**	Offers own opinion forcefully without domineering.
All lessons	**ELA6LSV1.h** **ELA7LSV1.h** **ELA8LSV1.h**	Responds appropriately to comments and questions.
All lessons	**ELA6LSV1.i** **ELA7LSV1.i** **ELA8LSV1.i**	Volunteers contributions and responds when directly solicited by teacher or discussion leader.
All lessons	**ELA6LSV1.j** **ELA7LSV1.j** **ELA8LSV1.j**	Gives reasons in support of opinions expressed.
2, 3, 4, 5, 6	**ELA6LSV1.l** **ELA7LSV1.l** **ELS8LSV1.l**	Employs group decisions-making techniques such as brainstorming or a problem-solving sequence (i.e., recognizes problem, defines problem, identifies possible solutions, selects optimal solution, implements solution, evaluates solution).
2, 4, 5, 6	**ELA6LSV1.m**	Writes a response to/reflection of interactions with others.
National Health Education Standards – Grades 6 – 8: cited from pre-publication document of National Health Education Standards, Pre K-12, American Cancer Society, December 2005 – August 2006		
Lesson	**Standard**	**Performance Indicator**
4, 5, 6	**1.8.1**	Analyze the relationship between healthy behaviors and personal health.
3, 5, 6	**1.8.3**	Analyze how the environment impacts personal health.
4	**1.8.5**	Describe ways to reduce or prevent injuries and other adolescent health problems.
5	**1.8.7**	Describe the benefits and barriers to practicing healthy behaviors.
4, 5	**1.8.8**	Examine the likelihood of injury or illness if engaging in unhealthy behaviors.
3, 4, 5	**1.8.9**	Examine the potential seriousness of injury or illness if engaging in unhealthy behaviors.

5	**2.8.5**	Analyze how messages from the media influence personal and family health.
5	**2.8.8**	Explain the influence of personal values and beliefs on individual health practices and behaviors.
4, 5, 6	**2.8.9**	Describe how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
5, 6	**2.8.10**	Explain how school and public health policies can influence health promotion and disease prevention.
4, 5, 6	**3.8.1**	Analyze the validity of health information, products, and services.
5, 6	**3.8.4**	Describe situations that may require professional health services.
4, 5, 6	**4.8.1**	Apply effective verbal and nonverbal communication skills to enhance health.
4, 5, 6	**5.8.1**	Identify circumstances that can help or hinder healthy decision-making.
4, 5, 6	**5.8.2**	Determine when health-related situations require the application of a thoughtful decision-making process.
6	**5.8.3**	Distinguish when individual or collaborative decision-making is appropriate.
4, 5	**5.8.6**	Choose healthy alternatives over unhealthy alternatives when making a decision.
4, 5	**5.8.7**	Analyze the outcomes of a health-related decision.
5	**6.8.1**	Assess personal health practices.
5	**7.8.3**	Demonstrate behaviors to avoid or reduce health risks to self and others.
4, 5, 6	**8.8.1**	State a health enhancing position on a topic and support it with accurate information.
5, 6	**8.8.2**	Demonstrate how to influence and support others to make positive health choices.
4, 5, 6	**8.8.4**	Identify ways that health messages and communication techniques can be altered for different audiences.